

# STRUCTURE AND MANUFACTURING METHOD FOR SINGLE-WAVELENGTH AND MULTI-WAVELENGTH DISTRIBUTED FEEDBACK LASERS

## ABSTRACT OF THE DISCLOSURE

A single-wavelength distributed feedback (DFB) laser structure is provided. The laser structure having two sections includes an active-material layer for generating a laser having a wavelength in a specific range, two cladding layers respectively covering an upper and a bottom sides of the active-material layer for forming a waveguide structure, a phase shift layer having a specific thickness for controlling a difference between Bragg wavelengths of the two sections, a wet-etching stop layer positioned between the active-material layer and the phase shift layer, and a grating layer having a specific period for determining an illuminating wavelength, wherein a difference between the two sections is an existence of the phase shift layer thereon, and the existence of the phase shift layer causes a difference of the effective refractive indices between the two sections so as to generate a fixed difference between Bragg wavelengths of the two sections.